

6. The milking plant as recited in claim 5, wherein the cleaning fluid return pump is a centrifugal pump comprising an impeller connected to the air separator with the center of said impeller located immediately against said output of the air separator.

Cont

A1
7. The milking plant as recited in claim 6, wherein said milk storage means comprises a milk cooling tank.

Please add the following new claims:

A2
10. A milking plant used to collect milk from an animal comprising:
a milk collector that receives milk from the animal;
a tank;
a milk conduit leading from the milk collector to the tank;
a cleaning fluid supply;
a cleaning fluid conduit connected to the milk conduit;
a valving arrangement having one setting that enables milk to flow from the milk collector through the milk conduit and another setting that allows cleaning fluid from the cleaning fluid supply to flow through the milk conduit;
a vacuum supply that applies a vacuum to prevent cleaning fluid in the cleaning fluid conduit from entering the milk conduit when the valving arrangement is set to enable milk to flow through the milk conduit.

11. The milking plant as recited in claim 10 wherein the milk collector comprises a milking station having a plurality of teat cups, the tank comprises a milk cooling tank, the milk conduit comprises a transport line through which milk can flow, the valving arrangement comprises a plurality of valves with one of the valves disposed in a closed position and another one of the valves disposed in an open position permitting flow of milk from the milking station to the milk cooling tank, and the one of the valves disposed in an open position and the another one of the valves disposed in a closed position permitting flow of cleaning solution through the transport line, and the vacuum supply comprises a milking vacuum system.

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12. The milking plant as recited in claim 11 wherein cleaning fluid is introduced through the plurality of teat cups into the transport line to clean the transport line.

13. The milking plant as recited in claim 12 wherein the cleaning solution comprises a detergent.

14. The milking plant as recited in claim 10 further comprising a pump that draws cleaning solution out of the milk conduit.

15. The milking plant as recited in claim 14 further comprising an air separator disposed upstream of the pump and downstream of the milk conduit.

16. The milking plant as recited in claim 15 wherein the pump comprises a centrifugal pump and the vacuum supply applies the vacuum to the air separator.

17. The milking plant as recited in claim 15 further comprising a second pump disposed downstream of the air separator with one of the pumps comprising a milk pump that pumps milk from the air separator to the milk cooling tank and the other one of the pumps comprising a milk dump pump.

18. The milking plant as recited in claim 10 further comprising a separator in communication with the cleaning fluid conduit, wherein the milk collector comprises a milking station having a plurality of teat cups, the tank comprises a milk cooling tank, the milk conduit comprises a transport line through which milk can flow, the valving arrangement comprises a plurality of valves with one of the valves disposed in a closed position and another one of the valves disposed in an open position permitting flow of milk from the milking station through the milk conduit to the milk cooling tank, and the one of the valves disposed in an open position and the another one of the valves disposed in a closed position permitting flow of cleaning solution through the tank and into the cleaning fluid conduit, and the vacuum supply line comprises a milking vacuum system that is connected to the separator.

19. The milking plant as recited in claim 18 further comprising a second tank that holds milk when cleaning solution is introduced in the milk cooling tank and wherein the separator comprises an air separator.